

Appendix B-List of Potential Indicators

Indicator Name/Type	Data Source
Biological Indicators (defined as population abundance)	
Aquatic species	
Chinook salmon	Washington Department of Fish and Wildlife (WDFW) http://wdfw.wa.gov/mapping/salmonscape/ Governor's Salmon Recovery Office (GSRO)-Recreation and Conservation Office (RCO) http://www.governor.wa.gov/gsro/publications/sosreport/default.asp
Summer chum salmon	WDFW http://wdfw.wa.gov/mapping/salmonscape/ GSRO-RCO http://www.governor.wa.gov/gsro/publications/sosreport/default.asp
Coho salmon	WDFW http://wdfw.wa.gov/mapping/salmonscape/
Pacific herring	WDFW-annual stock status report http://wdfw.wa.gov/fish/forage/herring.htm WDFW-PSNERP http://www.pugetsoundnearshore.org/technical_papers/marine_fish.pdf
Rock fish	WDFW NOAA Fisheries
Dungeness crab	WDFW-priority habitat and species http://wdfw.wa.gov/hab/phs/dungeness_crab/2008_dungeness_crab_phs_recs.pdf

	WDFW-Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) http://www.pugetsoundnearshore.org/technical_papers/shellfish.pdf
Geoduck	Washington Department of Natural Resources (WDNR) WDFW-annual stock assessment http://www.wdfw.wa.gov/fish/shelfish/geoduck/geoduck_stock_assessment.htm
Spot prawns	WDFW
Terrestrial/Upland Species	
elk	WDFW
Western grebe	WDFW
Pileated woodpecker	WDFW-Christmas bird counts
Great blue heron	WDFW-PSNERP http://www.pugetsoundnearshore.org/technical_papers/herons.pdf
Aquatic Vegetation	
eelgrass	Washington Department of Natural Resources (DNR)-submerged vegetation monitoring project http://www.dnr.wa.gov/ResearchScience/Topics/AquaticHabitats/Pages/aqr_nrsh_eelgrass_monitoring.aspx WDFW-PSNERP http://www.pugetsoundnearshore.org/technical_papers/kelp.pdf
Biological Diversity	
	WDFW-priority species and habitat program http://wdfw.wa.gov/hab/phslist.htm

	http://wdfw.wa.gov/hab/phs/phs_list_2008.pdf
ESA Listed salmon species	
Physical Indicators	
Land cover/land use	
Agricultural land acreage	Hood Canal Dissolved Oxygen Program (HCDOP)-land use/land cover analysis Farm Service Agency (US Department of Agriculture)-National Agriculture Imagery Program (NAIP) http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=prog&topic=nai
Land cover trends	US Geological Survey (USGS)-summary of land cover trends-Puget Sound Lowland Ecoregion http://landcover trends.usgs.gov/west/eco2Report.html WDFW
Forest cover/type	HCDOP-land use/land cover analysis
Forest land conversion	University of Washington-2006 Western Washington Land Use Change Data Set US Forest Service (USFS)-Forest Inventory Analysis
Impervious area	Hood Canal Coordinating Council (HCCC)-HCCC Buildout analysis
Urban development	HCDOP-land use/land cover analysis
Freshwater wetlands	HCDOP-land use/land cover analysis
Intertidal wetlands	WDFW-PSNERP http://www.pugetsoundnearshore.org/ US Army Corps of Engineers (USACOE)-Puget Sound General Investigation (GI)

	http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=PSNERP&pagename=Change_Analysis
Riparian condition	<p>WRIAs 15, 16, and 17 Watershed Plans</p> <p>Washington Conservation Commission (WCC) Limiting Factors Reports for WRIAs 15, 16, and 17</p> <p>Point No Point Treaty Tribes and WDFW-summer chum salmon conservation initiative</p> <p>HCCC-Riparian Assessment</p>
Stream channel condition	<p>WRIAs 15, 16, and 17 Watershed Plans</p> <p>Washington Conservation Commission (WCC) Limiting Factors Reports for WRIAs 15, 16, and 17</p> <p>Point No Point Treaty Tribes and WDFW-summer chum salmon conservation initiative</p> <p>HCCC-Riparian Assessment</p>
Stream flow	<p>USGS</p> <p>Washington Department of Ecology (DOE)</p>
Hydrologic alteration	<p>WRIAs 15, 16, and 17 Watershed Plans</p> <p>Washington Conservation Commission (WCC) Limiting Factors Reports for WRIAs 15, 16, and 17</p> <p>Point No Point Treaty Tribes and WDFW-summer chum salmon conservation initiative</p>

	HCCC-Riparian Assessment
Stream temperature	DOE USGS WRIAs 15, 16, and 17 Watershed Plans Washington Conservation Commission (WCC) Limiting Factors Reports for WRIAs 15, 16, and 17 Point No Point Treaty Tribes and WDFW-summer chum salmon conservation initiative HCCC-Riparian Assessment
Dissolved carbon	HCDOP-freshwater sampling program
Dissolved nitrogen	HCDOP-freshwater sampling program
Dissolved nutrients	HCDOP-freshwater sampling program
Phosphorous	HCDOP-freshwater sampling program
Suspended sediment	HCDOP-freshwater sampling program
Fecal coliforms	DOE-environmental assessment program Washington Department of Health (DOH)
Chlorophyll	HCDOP-ORCA buoys monitoring

	HCDOP-citizens monitoring program
Dissolved oxygen	HCDOP-ORCA buoys monitoring HCDOP-citizens monitoring program
Nutrient concentrations	HCDOP-ORCA buoys monitoring HCDOP-citizens monitoring program
Salinity	HCDOP-ORCA buoys monitoring
Temperature	HCDOP-ORCA buoys monitoring
Contaminants in fish species	
Socioeconomic Indicators	
Economic indicators	
Commercial shellfish closures	DOH-Shellfish growing area annual reports and early warning system http://www.doh.wa.gov/ehp/sf/growreports.htm DOH-atlas of fecal coliform pollution in commercial shellfish areas (annual) http://www.doh.wa.gov/ehp/sf/growreports.htm
Federal timber harvest volume	USFS
Foresr practice applications/permits	WDNR
Hydraulic permits	WDFW
Hotel/motel occupancy rates	
State sales/gas tax revenues	Washington Department of Revenue

Building permits	Jefferson/Mason/Kitsap Counties
Population-resident	US Census Bureau
Population-transient	
Unemployment claims	Washington Department of Labor and Industries
Public land acquisition	RCO-Washington Wildlife and Recreation Program USFS
zoning	Jefferson/Mason/Kitsap Counties
Recreation indicators	
Dungeness crab harvest	WDFW Hood Canal Tribes
Salmon harvest	WDFW Hood Canal Tribes
Spot prawn harvest	WDFW Hood Canal Tribes
Recreation shellfish closures	DOH

State park visitor use	Washington State Parks and Recreation Commission Trust for Public Land/WWRC-distribution map (see Peter Dykstra, TPL)
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